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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604735F: <i>Combat Training Ranges</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	35.723	8.106	9.222	-	9.222	28.828	24.419	19.072	19.301	Continuing	Continuing
652286: <i>Combat Training Range Equipment</i>	35.723	8.106	9.222	-	9.222	28.828	24.419	19.072	19.301	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Combat Training Range (CTR) Program Element (PE) provides equipment and support to Air Force units and combat training ranges for mission testing, training, and evaluation of aircrews, as well as the operational testing of weapon systems and tactics under simulated combat conditions. This PE provides funding for the development of electronic warfare training capabilities, telecommunications, instrumentation equipment/systems, and evolutionary upgrades to facilitate live/virtual/constructive connectivity and standardization across all platforms to include coalition, F-22A and F-35 aircraft, and interoperability for joint test/training exercises in varied environments. The P5 Combat Training System (P5CTS), a collaborative development between USAF and USN, provides air combat training systems for both services at operational locations worldwide. Increments include hardware and software upgrades, an encrypted software communications architecture compliant Advanced Data Link to facilitate interoperability in a multiple independent level security environment and training with F-22A and F-35, internal pod replacement subsystems, integration of new aircraft Operational Flight Programs, and the development of solutions to enable live/ virtual/ constructive capabilities. This PE also includes the development of advanced threat emitters. The Joint Threat Emitter (JTE) continues the development of a comprehensive suite of threat signals for aircrew tactics and electronic combat training for simulated penetrations of hostile airspace. This program complements existing range threat simulators by emulating signals that simulate current and future air defense and threat radars. JTE Increment 1 is currently in production. Consistent with the evolutionary acquisition strategy and documented ACC training requirements, development will continue with next generation threat systems. Future increments will continue to add additional capability to the warfighter's training ranges. This PE includes Legacy Range Threat Systems including Miniature Multiple Threat Emitter Systems-M3P (Mini-MUTES), Multiple Threat Emitter System (MUTES), Modular Threat Emitter (MTE) and Tactical Radar Threat Generator (TRTG), Band Simulator and Unmanned Modular Threat Emitter (UMTE) Systems, which are being considered for modernization that will extend the system's service life and allow for upgrades to antiquated components for increased reliability and capabilities.

This program is in Budget Activity 5 - Systems Development and Demonstration because the CTR Program directly contributes to the effectiveness and survivability of US combat forces by providing training capabilities to simulate real combat conditions to prepare the warfighter for actual combat.

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B. Program Change Summary (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget		36.905	28.106	18.357	-	18.357
Current President's Budget		35.723	8.106	9.222	-	9.222
Total Adjustments		-1.182	-20.000	-9.135	-	-9.135
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-20.000			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-0.994	-			
• Other Adjustments		-0.188	-	-9.135	-	-9.135
Change Summary Explanation						
FY11: Congressional General Reductions -\$0.188						
FY13 funding reduced for higher DoD priorities						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2011	FY 2012	FY 2013
Title: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems				-	6.753	1.817
Description: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the development, integration and testing of P5 Combat Training Systems (P5CTS) evolutionary upgrades to provide software/hardware upgrades, aircraft/pod integration, upgrades for range applications, interoperability improvements, encrypted communication. In addition, funding for Advance Data Link is to facilitate interoperability in a multi-level security environment and training with F-22A and F-35, internal pod replacement subsystems, integration of new aircraft operational Flight Programs and the development of solutions to enable live virtual constructive capabilities.						
FY 2011 Accomplishments: Continue Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the development, integration and testing of P5 Combat Training Systems (P5CTS) evolutionary upgrades to provide software/hardware upgrades, aircraft/pod integration, upgrades for range applications, interoperability improvements, encrypted communication.						
FY 2012 Plans: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the development, integration and testing of P5 Combat Training Systems (P5CTS) evolutionary upgrades to provide software/hardware upgrades, aircraft/pod integration, upgrades for range applications, interoperability improvements, encrypted communication						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013
N/A				
FY 2013 Plans: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the development, integration and testing of P5 Combat Training Systems (P5CTS) evolutionary upgrades to provide software/hardware upgrades, aircraft/pod integration, upgrades for range applications, interoperability improvements, encrypted communication				
Title: Range instrumentation Waveform Description: Continue Range instrumentation Waveform (RIW) evaluation, demonstration and test effort. FY 2011 Accomplishments: Continue RIW system integration on developmental hardware. Continue RIW evaluation, demonstration, and test effort.		8.808	-	-
Title: Software Communications Architecture Description: Continued development of the encrypted software communications architecture. FY 2011 Accomplishments: Continued development of the encrypted software communication's architecture. Continue evaluation, demonstration, and test		9.780	-	-
Title: Threats Description: Develop a capability to train aircrews against Next Generation threats (double digit surface to air missile threats). The system will be deployed as part of an Integrated Air Defense System (IADS) and will contain a robust debriefing capability to support warfighter training. Evolution of Legacy System modernization. Provide engineering, mission and A&AS support of Range Threat Systems. FY 2011 Accomplishments: Develop a capability to train aircrews against Next Generation threats (double digit surface to air missile threat). The system will be deployed as part of an Integrated Air Defense System (IADS) and will contain a robust debriefing capability to support warfighter training. Provide engineering, mission and A&AS support of Range Threat Systems. FY 2012 Plans: Continue to develop a capability to train aircrews against Next Generation threats (double digit surface to air missile threats). The system will be deployed as part of an Integrated Air Defense System (IADS) and will contain a robust debriefing capability to		17.135	1.353	7.405

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C. Accomplishments/Planned Programs (\$ in Millions)									FY 2011	FY 2012	FY 2013
support warfighter training. Evolution of Legacy System modernization. Provide engineering, mission and A&AS support of Range Threat Systems.											
FY 2013 Plans: Continue to develop a capability to train aircrews against Next Generation threats (double digit surface to air missile threats). The system will be deployed as part of an Integrated Air Defense System (IADS) and will contain a robust debriefing capability to support warfighter training. Evolution of Legacy System modernization. Provide engineering, mission and A&AS support of Range Threat Systems.											
Accomplishments/Planned Programs Subtotals									35.723	8.106	9.222
D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0207429F, BP83: Other Procurement, AF, Combat Training Ranges, OPAF BP83	38.081	36.455	17.422	0.000	17.422	35.093	21.843	17.220	16.748	Continuing	Continuing
• 0207429F, OPAF BP86: Initial Spares, OPAF BP86	0.899	0.903	0.934	0.000	0.934	0.658	0.642	0.654	0.665	Continuing	Continuing
• 0207429F, Combat Training Ranges....: 0207429F, Other aircraft procurement, AF, APAF, BP19	15.283	14.867	0.000	0.000	0.000	25.756	26.307	21.724	21.955	Continuing	Continuing
• 0207429F, Initial Spares, APAF BP16: Initial Spares, BP16	1.628	1.466	1.642	0.000	1.642	1.806	1.810	1.784	1.816	Continuing	Continuing
E. Acquisition Strategy											
The acquisition strategy is competitive, with cost plus and fixed price contracts.											
F. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
P5CTS Development	1	2013	4	2014
-- Small Form Factor K Radio (SFFK) Contract annual Award	1	2011	1	2011
-- Range Instrumentation Waveform (RIW) Task 3	1	2011	1	2011
-- Advanced Data Link (ADL) Development	1	2011	4	2011
JTE Development	1	2013	4	2014
-- Increment II Pre-Milestone A Activities	1	2013	1	2014
-- Increment II Technical Development	4	2012	4	2014
-- Increment II EMD	4	2014	1	2016
-- Increment II production	1	2016	2	2017
-- Increment I Second Source Transmitter	4	2011	4	2012
-- Increment I Follow-on Production	2	2013	2	2017
Legacy System Improvements	4	2011	4	2012